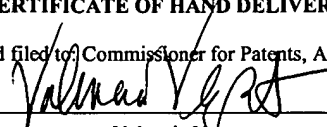


CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed to: Commissioner for Patents, Alexandria, VA 22313-1450, on April 14, 2004

  
Valencia Venzant

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In the application of:

Yoshinori KANO et al.

Serial No.: 09/963,684

Filing Date: September 27, 2001

For: LINEAR MOTOR AND ELECTRONIC  
COMPONENT FEEDING APPARATUS

Examiner: Jason D. Prone

Group Art Unit: 3724

**APPELLANTS' OPENING BRIEF**

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is a timely appeal from the final rejection of claims 7, 8 and 13 in this application.

**I. REAL PARTY IN INTEREST**

The real party in interest is Hitachi High-Tech Instruments Company, Ltd., of Oizumi-Machi, Japan, the assignee of appellants' entire, right, title and interest in this application.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences within the meaning of 37 CFR 1.192(c)(2)

known to appellants or their undersigned counsel.

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### **III. STATUS OF CLAIMS**

Claims 7, 8 and 13 (reproduced in the attached Appendix), which are under final rejection, and claims 1-6 and 9-12, which have been withdrawn from consideration, are pending in this application.

Claims 7, 8 and 13 have been finally rejected under 35 USC 103(a) over Saito in view of Evans.

### **IV. STATUS OF AMENDMENTS**

Appellants filed the Notice of Appeal (Paper No. 20) without responding to the final Action (Paper No. 19), so the claims on appeal stand as presented in the Amendment Under 37 CFR 1.111 filed September 4, 2003 (Paper No. 18).

### **V. SUMMARY OF THE INVENTION**

This invention is a feeding apparatus that feeds electronic components to a main body of an electronic component mounting apparatus that mounts the electronic component on a printed circuit board. As shown in FIG. 3A of the application, feeding portion (feeding apparatus) 3 feeds electronic components to main body 2 of the mounting apparatus. The feeding apparatus 3 includes tape cassette (component feeding unit) 13, which contains the electronic components in compartments of the tape wound in the cassette, and linear motor 14, which carries the component feeding unit 13 to the main body 2 for component pick up. The linear motor 14 includes supporting bases (stationary members) 44, 45, which have a bar shape extending normal to the primary plane of the component feeding unit 13, and moving member 48, which moves along the stationary member 44, 45, driven by electromagnetic force generated between the two members. The stationary members 44, 45 are attached to slide platen 11, which also has a bar shape extending normal to the primary plane. The moving member 48 is attached to slide base (unit base) 12, which supports the component feeding unit and is slidably attached to the slide

platen 11 via slide rail 43a. A plurality of fins (heat dissipation portion) 71 are attached to the unit base opposite from the moving member 48. The fins 71 also have a bar shape extending normal to the primary plane.

## **VI. ISSUE PRESENTED FOR REVIEW**

Whether the Examiner erred in rejecting claims 7, 8 and 13 under 35 USC 103(a) over Saito in view of Evans.

## **VII. GROUPING OF CLAIMS**

Claims 7 and 8 stand or fall together. Claim 13 stands or falls separately from claims 7 and 8.

## **VIII. ARGUMENT**

### **A. Claims 7 and 8 Are Patentable Over Saito And Evans Because The Examiner Failed to Establish A *Prima Facie* Case Of Obviousness Under *In re Lee* And *In re Thrift*.**

In the final Action, the Examiner cites Saito for the teaching of the elements of the claimed apparatus except for the heat dissipation portion formed on the unit base for dissipating heat in the moving member and states as follows:

Saito et al. ... fails to disclose a dissipation portion comprising a heat dissipation fin disposed parallel with a direction of sliding movement. Evans et al. teaches the use of a heat dissipation portion (Abstract) comprising a heat dissipation fin disposed parallel with a direction of sliding movement (3). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Saito et al. with a heat dissipation portion, as taught by Evans et al. to control the heat leveling during operation. ... The use of a heat dissipation fin to cool an object is old and well known in the art. Evans et al. teaches a method and apparatus for cooling an electric device with a fin to electric device disclosed by the Saito et al. patent. Therefore, the rejection is valid and will remain.

Final Action, pages 2-3. This is all the evidence the Examiner adduced to establish that persons of ordinary skill in the art would have motivated to combine Saito and Evans so as to arrive at the invention of claims 7 and 8.

When rejecting a claim as unpatentable under 35 USC 103(a), the Examiner must establish a *prima facie* case of obviousness by providing evidence to support his argument, as explained by the court in *In re Lee*, 277 F.3d 1338, 1343-44, 61 USPQ2d 1430, 1439, 1442 (Fed. Cir. 2002):

When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. ... This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. ... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

This evidence must be specific so that persons of ordinary skill in the art would have been motivated to combine the teachings of the cited references without more, as explained by the court in *In re Thrift*, 298 F.3d 1357, 1364-65, 63 U.S.P.Q.2d 2002, 2007 (Fed. Cir. 2002):

The motivation to combine the references is present in the text of each reference. The Schmandt reference itself verifies this motivation, stating that "allowing users to remain focused on the screen and keyboard, instead of fumbling for the mouse, would be beneficial in a workstation environment." Schmandt at 51. Stefanopoulos itself, while not expressly disclosing the use of speech recognition, sets forth the motivation to combine the references, stating that "there are alternative means to select the buttons, including . . . voice-activated transfer means, which may be readily adapted for use with the present invention by those skilled in the art." '237 patent, col. 4, ll. 34-38.

Claim 7 recites a heat dissipation portion formed on the unit base for dissipating the heat generated in the moving member. The heat source is the moving member of the linear motor. The moving member is mounted on the unit base, and the heat generated in the moving member is dissipated through the heat dissipation portion formed on the unit base. On the other hand, Evans discloses two cooling configurations. The first is a cooling system for an electronic device, such as a high performance microprocessor, in which a heat sink in a form of a disk rotates over the electronic device while staying in contact with the electronic device. This

configuration is effective as long as it “would permit a portion of the heat sink or heat transfer element to move relative to an electronic device having an outer surface.” Column 5, lines 9-12, of Evans. Evans’ second cooling configuration is a prior art configuration in which a stationary heat sink is placed on the electronic device, as shown in FIG. 1A of Evans.

Evans’ first cooling system is not relevant to the claimed invention because the claimed heat dissipation portion is formed on the unit base that has the moving member thereon and thus is stationary relative to the heat source, i.e., the moving member of the linear motor, while Evans’ first cooling system moves the heat sink relative to the heat source. Evans’ second cooling system puts the heat sink on the top surface of the electronic device for absorbing the heat from the electronic device and releasing it by convection. The heat sink is placed on the heat source itself. Accordingly, the Examiner must provide the evidence that persons of ordinary skill in the art would have been motivated to take Evans’ heat sink placed on the electronic device, which is a heat source, and put it on the unit base of Saito’s component feeding apparatus, which is not a heat source. In other words, the Examiner not only has to show that persons of ordinary skill in the art would have been motivated to put the heat sink of a microprocessor cooling system on the feeding apparatus of a component mounting apparatus, but also has to show that persons of ordinary skill in the art would have been motivated to modify Evans’ teaching, which is placing a heat sink on a heat source, so as to place the heat sink on a component of the apparatus that is not a heat source, i.e., the unit base, as claimed.

The only evidence the Examiner provided for combining Saito and Evans is his unsupported statement that “[t]he use of a heat dissipation fin to cool an object is old and well known in the art.” In the words of *In re Lee*, the Examiner is relying on “subjective belief and unknown authority,” points to no “evidence of record” for evidence of motivation and provides

no “reasoning by which the findings are deemed to support his conclusion.” What the Examiner should have provided is objective evidence in the record that persons of ordinary skill in the art would have been motivated to combine Saito and Evans so as to arrive at the configuration of the claims, as required by *In re Lee*. *In re Thrift*, 298 F.3d at 1364, 63 U.S.P.Q.2d at 2007. Thus, the Examiner fails to establish a *prima facie* case of obviousness under 35 USC 103(a).

**B. The Examiner Failed To Establish That Saito And Evans Combined Teach All The Elements Of Claim 13.**

Claim 13 adds the requirement, which is not taught by Saito or Evans, that the heat dissipation fin is disposed parallel with a direction of a sliding movement of the unit base along the platen. Although the Examiner states Evans teaches this claimed configuration without citing any specific portion of Evans, appellants submit that no part of Evans teaches or suggests the configuration of claim 13. First, Evans’ stationary heat sink system explained above does not teach the claimed configuration because the entire cooling system stands still without designed movement for cooling. No sliding movement is involved in this Evans’ cooling system. Second, Evans’ rotating heat sink system does not teach the claimed configuration either because in this system the heat sink is moving relative to the heat source while the claimed heat dissipation portion is stationary relative to the heat source, as explained above. In addition, even though Evans teaches a rotational movement of the fin itself, it does not teach any transportational movement of an object on which the fin is mounted, much less the positioning of the fin with respect to the sliding direction of the object having the fin thereon.

Accordingly, Saito and Evans combined do not teach or suggest the invention of claim 13 as a whole.

### **CONCLUSION**

For the foregoing reasons, the Board should reverse the final rejection of claims 7, 8 and 13 in this application.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, appellants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 492322002100.

Respectfully submitted,

Dated: April 14, 2004

By: 

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## **APPENDIX OF CLAIMS ON APPEAL**

7. An apparatus for feeding electronic components comprising:  
at least one unit base carrying at least one component feeding unit;  
a platen for sliding the unit base thereon;  
a linear motor comprising at least one stationary member mounted on the platen and a moving member mounted on the unit base; and  
a heat dissipation portion formed on the unit base for dissipating heat in the moving member.
8. The apparatus for feeding electronic components of claim 7, wherein the heat dissipation portion comprises a heat dissipation fin which forms a unitary unit with the unit base.
13. The apparatus for feeding electronic components of claim 8, wherein the heat dissipation fin is disposed parallel with a direction of a sliding movement of the unit base along the platen.